

## A Review of Mr. E. Rivenhall Goffe's paper on Tabanidae (Trans. Ent. Soc. S. of England 1930.)

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There can be no Collector of any Order of Insects who has not experienced during summer excursions unpleasant attentions from the blood-thirsty *Tabanidae*; few are interested beyond the immediate destruction of such pests, but my friend Goffe for the last two or three years has apparently never been really happy except when surrounded by swarms of these insects, and would travel many miles to any locality where *Tabanidae* were known to be particularly venomous in their attacks in order to secure specimens. The interesting and instructive pamphlet which he has published in the Transactions of the Entomological Society of Hampshire and the South of England is proof that his energies and self-sacrifice in the cause of Science has not been in vain.

About 70 pages are devoted to tables and short descriptions of all the British species while there are two plates illustrating details of some of the structural and other differences. Twenty seven species are listed as British while Verrall in Vol. V. of "*British Flies*" described only twenty five, but one of Verrall's species *Tabanus glaucus* was certainly partly described from the species correctly recorded by Goffe as *T. miki*, Brauer. The two additional species included by Goffe are *Therioptectes borealis*, Mg., and *Atylotus plebejus*, Fln. *Th. borealis* is reinstated as British on the strength of two specimens:—the male upon which Austen introduced the species as British in 1906 (British blood-sucking Flies), and a female without date or locality in the old Entomological Club Collection now in the Hope Department at Oxford. The male can quite definitely be ruled out as being only *Th. montanus* as indeed it was considered to be by Verrall. Austen working with Brauer's Monograph quite correctly ran this male down to *borealis* (Mg.) Brauer, but Villeneuve (*Wien. Ent. Zeit.* 1910) has proved from an examination of Brauer's specimens that the male of Brauer's *borealis* was *montanus*. With regard to the female, there must have been some "lapsus" on the part of Goffe. I have examined the specimen referred to and it is only an ordinary *Th. bisignatus*; *Th. borealis* therefore still remains to be discovered in this country and has no right to remain in our "List." *Atylotus plebejus* is recorded on the strength of two specimens in the British Museum taken by Mr. H. Womersley in Cheshire in 1911.

This paper of Goffe's is a remarkably good one when the fact that the author has only recently taken up the study of the Diptera is taken into consideration, but one feels that it could have been much improved if the author had delayed publication for another twelve months and spent the time in special investigations on a few of the more difficult species. There are also two outstanding faults, one being the acceptance without enquiry of the generic names\* contained in Meigen's *Nouvelle Classification* of 1800 and the consequent use of *Chrysozona* in place of *Haematopota*; the other is the practice of giving names to "forms" of a species. These "forms" are all dealt with

\* For the present position in regard to the status of these names see the note by F. W. Edwards in the January number of *Ent. Mo. Mag.* and *Entomologist*.

under the heading "variation" and the author makes no distinction between a generally distributed variety or aberration such as those occurring in the genus *Chrysops* and restricted to one sex only (the female), and a possible local race such as his *sudeticus meridionalis*. No doubt it is hoped that an easy reference to different "forms" may lead to a better knowledge of their distribution and biological significance, but the value in this respect is no compensation for the immense burden placed upon nomenclature. One can only hope that the author's action will hasten the day when it will be universally accepted that such names are outside the pale of the "Law of priority" and can consequently be ignored by taxonomists. Apart from these faults the work is one which should not only stimulate present workers in this family but add to their numbers.

Those who intend to help in the study of this interesting family may be glad to note one or two observations and additions to Goffe's work which I am in a position to make, often largely due to the examination of material collected by Goffe himself, or to the re-examination of my own material in the light of that author's work with the idea of confirming or confuting some of his conclusions.

#### *Tabanus bovinus* group.

The common New Forest large *Tabanus* has so long been considered to be *bovinus* that it comes as a shock to find that though true *bovinus* does occur in the Forest it appears to be a rare species. Goffe and Verrall both realized this in regard to the male, but both failed to distinguish correctly the female. In fact I am not certain that Goffe at present possesses a female while the great majority of Verrall's females were not *bovinus*. This is not the place to go into details of the characters distinguishing the true female of *bovinus* but one should on no account fail to catch and pin any of these larger New Forest Tabanids having green, or coppery-green, instead of coppery-brown, eyes. The more common New Forest large *Tabanus* will probably prove to be identical with *sudeticus* var. *perplexus*, Verrall, which I am convinced must rank as a species.

In trying to separate his "forms" of *sudeticus* ♀ Goffe places too much faith in small differences in the shape of the shining frontal callus, this is a character which is particularly liable to suffer from abrasion, an injury which may increase with the age of the specimen and is almost unavoidably inflicted to a greater or less extent when specimens are caught. One has only to compare Goffe's figure of the frontal callus of his supposed female *bovinus* with that of his *perplexus*, to see that the differences are only such as might easily be due to abrasion.

#### *Theriopectes tropicus*, L.

There has been much confusion in the use of this name. Brauer, according to specimens sent to him by Verrall and returned as *tropicus*, certainly included at least two species under this name, for the "Worcester" specimen is quite distinct from all the others. Verrall noted the differences of this specimen but, though Brauer had returned it as typical *tropicus*, treated it as an extreme pale form of *tropicus*, and used the name *tropicus* for what I should call *bisignatus*; he

probably did this because Brauer had also returned some similar *bisignatus* forms as typical *tropicus*. Having used the name *tropicus* for this form, Verrall (perhaps influenced further by Brauer's statement that he considered *bisignatus* to be a melanochroitic form of *tropicus*) used the name *bisignatus* for the darkest form with "the reddish colouring sometimes quite absent" from female abdomen. Goffe naturally follows Verrall with the exception that he begins to be suspicious of the *tropicus tropicus* of Verrall and would place males which Verrall considered to belong to that form as males of *bisignatus*, and in doing so is probably correct. The few females which Goffe refers to *tropicus tropicus* are, like Verrall's, almost certainly only a form of *bisignatus* with the pale markings at sides of segments 1 and 2 more extensive.

True *tropicus* must be a species with the sides of the first three abdominal segments yellowish in the female, and if it occurs in this country is represented by the "Worcester" specimen mentioned above. An examination of the so-called form of *tropicus* mentioned by Verrall in the Addenda to *British Flies*, Vol. V., as taken by Col. Yerbury at Crymlyn Bog in 1908, reveals the fact that they are specifically identical with the Worcester specimen, and the same species also occurs in the Norfolk Broads district. The separation of this species (which I feel bound for the present to call *tropicus*) from *bisignatus* and the raising of *T. perplexus* to the rank of a species adds two additional species to the British List, making 28 in all.

*Theriopectes solstitialis*, Mg.

I feel certain that Goffe has mixed up two species under this name. I have not seen Andrews' Sutton Broad specimens but the species I have taken in the Norfolk Broads is the British *tropicus* (v. above) and quite distinct from the species occurring in Chippenham Fen, and at Lyndhurst and other parts of the New Forest, mentioned by Goffe, these latter being probably the true *solstitialis* of Meigen. My specimens of the Norfolk Broads species (*tropicus*) occurred early in August in company with *distinguendus* but were at the time easily recognised as distinct.

It may be gathered from the above remarks that there is still plenty of useful work to be done in collecting *Tabanidae*, while a study of Goffe's paper will show that there is an immense field of research awaiting those who will take up the study of variation, especially in such species as *Tabanus sudeticus* and *perplexus* and *Theriopectes distinguendus* and *wontanus*.

No one, I am sure, will be more pleased than my friend E. Rivenhall Goffe if the publication of his paper gives the necessary impetus to the collecting and study of this interesting family—which includes some of the largest of the British Diptera—with the consequent clearing up of outstanding problems, and the acquisition of a sound knowledge of the species inhabiting these islands. He will, I know, willingly offer information and advice to anyone interested who cares to enter into correspondence with him, and I would conclude by asking all students of Diptera to give him every possible help.